Claims 3 and 4 are rejected under 35 U.S.C. § 103 for obviousness based upon Nagao in view of Brown, U.S. Patent No. 5,948,986

In the second enumerated paragraph of the Office Action, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the electrostatic chucking system of Nagao in view of Brown to arrive at the claimed invention. This rejection is respectfully traversed.

Applicant disagrees that the Examiner has established a realistic motivation to modify Nagao in view of Brown. As previously argued in the Amendment filed June 16, 2003, the teachings of Nagao are specifically directed to determining and controlling the temperature of a wafer in an electrostatic chuck. For example, Fig. 1 is described as disclosing a "temperature-rising schedule of the wafer" (column 3, lines 51-53). Furthermore, each of Figs. 1-4 illustrate how the concepts of the temperature of the wafer and the voltage applied are intertwined in Nagao's teachings. In fact, not including the claims, the term "temperature" appears ninety-four separate times in Nagao. As described in column 5, lines 41-48 of Nagao, the temperature of an electrostatic chuck 14 is monitored by a thermocouple 11, and this data is used by the controller to determine the applied voltage.

The Examiner, however, is advocating a modification of Nagao by using the warpage sensor of Brown to determine voltage to be applied to the electrostatic chuck. As such, the Examiner is changing the principle of operation of Nagao, which relies on the temperature of the wafer (and not warpage as advocated by Brown) to determine the voltage to be applied to the electrostatic chuck. In this regard, the Examiner is referred to the paragraph entitled "THE PROPOSED

MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE" in M.P.E.P. § 2143.03.[1] Applicant notes that the Examiner did respond to a previous argument that the Examiner is impermissibly changing the operation of Nagao. In particular, the Examiner stated:

> Regarding the argument that the examiner is changing the operation principle of Nagao by using a warpage sensor. Brown discloses the importance of using a warpage sensor to minimize the scratching of the workpiece. By including the teaching of the warpage sensor of Brown in Nagao, the invention would have a warpage sensor and a warpage sensor including the benefits provided by both as previously discussed.

The Examiner's arguments, however, are not persuasive as the Examiner has failed to address the issue at hand, which is the proposed modification changes the principle of operation of Nagao. The Examiner does not argue that the Examiner's proposed modification would not change the principle of operation of Nagao. Instead, the Examiner merely restates that "[b]y including the teaching of the warpage sensor of Brown in Nagao, the invention would have a warpage sensor [and the benefits thereof]," which is the alleged motivation for the combination. The issue raised by Applicant and the issue (i.e., motivation to combine) addressed by the Examiner are different, and as such, the Examiner has failed to respond to Applicant's argument.

Applicant also notes that besides disclosing controlling the applied voltage stepwise, Nagao also discloses that "the voltage to be applied to the electrostatic chuck may also be increased continuously to the saturated temperature" (column 4, lines 7-8) (emphasis added). Thus, Nagao does not specifically advocate only stepwise control of the applied voltage. Instead, Nagao provides an alternative teaching that does not meet the claimed limitation. The Examiner, however, has not factually established the motivation which would have led one

[1] If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

having ordinary skill in the art to choose the stepwise application of voltage, as claimed, instead of the continuous application of voltage as also taught by Nagao. In fact, Nagao describes that the continuous application of voltage has the benefit of shortening treatment time in comparison to the stepwise application of voltage (column 4, lines 10-11). Since the Examiner has not established the motivation to select the stepwise application of voltage from the teaching of Nagao to use continuous application of voltage, Applicant can only assume that the Examiner has engaged in impermissible hindsight reconstruction of the claimed invention based on Applicant's own teachings.[2]

Applicant further notes that even if one having ordinary skill in the art were motivated to arrive at the claimed invention, the claimed invention would not result. If Nagao and Brown were combined, one having ordinary skill in the art would not use warpage instead of temperature to vary the applied voltage. Instead, the combination arrived at by one having ordinary skill in the art would have included two separate electrode systems. The first electrode system, as suggested by Brown, would be controlled based on measurements as to warpage. Once the wafer has been positioned to be flat, as taught by Brown, a second electrode system, as taught by Nagao, would be used to raise the temperature of the wafer by adjusting the applied voltage either stepwise or continuously. One having ordinary skill in the art, however, would not believe that it is necessary to stepwise control the voltage applied to the first electrode system because there is no motivation to do so. Thus, the proposed combination of Nagao and Brown would still not disclose the claimed invention. For the reasons stated above, Applicant

[2] A "determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention." ATD Corp. v. Lydall, Inc., 159 F.3d 534, 546, 48 USPQ2d 1321, 1329 (Fed. Cir. 1998).

respectfully solicits the withdrawal of the imposed rejection of claim 3 under 35 U.S.C. § 103 for obviousness based upon Nagao in view of Brown.

With regard to claim 4, which recites that the stepwise control of the applied voltage is based on a distance measurement, the Examiner simply recycled the analysis the Examiner used with regard to the rejection of claim 3 except the Examiner substituted distance for warpage. In response, Applicant incorporates herein the arguments previously presented with regard to claim 3. Specifically, the Examiner is advocating a modification to Nagao that would impermissibly change the principle of operation thereof. Furthermore, since the Examiner has provided no motivation to select the stepwise application of voltage from the different teachings of Nagao, Applicant assumes that the Examiner has engaged in impermissible hindsight reconstruction of the claimed invention based on Applicant's own teachings. Finally, even if one having ordinary skill in the art were motivated to arrive at the claimed invention, the claimed invention would not result because one having ordinary skill in the art would not believe that it is necessary to stepwise control the voltage applied to the first electrode system because there is no motivation to do so. Applicant, therefore, respectfully solicits the withdrawal of the imposed rejection of claim 4 under 35 U.S.C. § 103 for obviousness based upon Nagao in view of Brown.

Applicant has made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. However, Applicant invites the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. Accordingly, and in view of the foregoing

remarks, Applicant hereby respectfully requests reconsideration and prompt allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417, and please credit any excess fees to such deposit account.

Respectfully submitted,

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